

Efficacy of Acceptance and Commitment Therapy on Breast Cancer Female Patients' Hope

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Abstract

Background: Breast cancer is one of the most serious diseases that can endanger physical, psychological, and social health of women suffering from this disease.

Objectives: The aim of this study was to evaluate the effectiveness of commitment and acceptance (ACT) on breast cancer patients' hope.

Methods: This quasi-experimental study included all patients with breast cancer who were inhibited in Yazd, Iran. Using convenience sampling, 34 patients were selected and randomly divided into two groups: the treatment group and the control group. Both groups completed Miller's questionnaire on hope. Treatment group received psychological therapy of ACT for 12 weeks, 3 hours per week. Miller's questionnaire was redistributed and completed again by both groups after completion of the treatment. The collected data were analyzed by SPSS software and running analysis of covariance.

Results: The results of the current study revealed significant differences between control and treatment groups in terms of pre-test and post-test scores ($P = 0.05$).

Conclusions: According to the results of the present study, psychological therapy of ACT can be useful in promoting the breast cancer patients' hope.

Keywords: Breast Cancer, Acceptance and Commitment Therapy, Hope, Health, Women

1. Background

Cancer is created due to abnormal and uncontrolled growth of cells, and involves about 100 different types. Clinically, cancers are different regarding the age of onset, rate of growth, cell differentiation status, ability to being identified by diagnosis, scalability, response to treatment, and prognosis (1).

Today, modern medicine is trying to understand the connection between mind and body in terms of health and disease (2). Weight loss, sleep disturbances, and cognitive and emotional disorganizations along with cancer may lead to patient's depression (1). Diagnosis with cancer causes disappointment and hopelessness in patients (3). Ignoring psychiatric therapy during medical treatment brings about a negative impact on quality of life (4).

Hope is one of the foundations of the principles of balance and mental power that determines life achievements. Hope means belief in a better future. Hope with its penetrating power, stimulates active system to acquire new experiences and create new forces in the organism. Consequently, hope encourages endeavor in human and guides him toward better psychological and behavioral performances, and is known as one of the mental health signs

(5). Recent findings assert that in certain cancers, clinical course of the disease is influenced by psychological factors as well as coping style in the same proportion that the risk of cancer recurrence and metastasis are under the influence of received stress. To achieve favorable outcome, posing higher fighting spirit, having an optimistic view of cancer as a challenge in life and having a decision to fight the cancer and less repressive tendencies seem necessary. Psychological intervention for cancer treatment has turned to a scientific debate in recent research (6). Behavioral interventions lead to relaxation and anxiety reduction by giving a sense of disease control and immunization against disability; which can prevent depressive behavior. Physiological effects of such interventions occur in both direct and indirect levels. Relaxation, in itself, lead to physiological changes and decrease in sympathetic nervous system arousal. In addition, by reducing fear and helplessness feeling as well as physiological changes related to such modes, agitation may be minimized (7). Studies show that since 1988, psychological treatment of cancer patients has been started first from relaxation and visualization (8) then goes on to stress management and problem-solving techniques (9). Psychotherapy has already taken on different

aspects in cancer patients. Many studies have explored the influence of classes and workshops including training of cognitive-behavioral stress management (10-12), cognitive restructuring (13), coping skills training (14), and reality therapy (15).

Commitment and acceptance-based therapy (ACT) is the third wave of cognitive-behavioral therapies. This approach as an attitude to psychological intervention is not based on specific techniques but certain theoretical processes. Based on theoretical concepts, ACT is a psychological intervention based on modern behavioral psychology in which processes such as attention, awareness, acceptance, commitment, and behavior change are used to establish psychological flexibility (7). Acceptance and commitment therapy or ACT can be defined briefly as an intervention which focused on changing the relationship between patient and his thoughts instead of focusing on patient's thought changing. Patients learn to have their bitter thoughts and feelings without being dominated by them. They also learn to choose measurements that are consistent with their concerns. ACT focuses more on the activation of value-consistent behavior and instead of symptoms reduction and plans to increase mental flexibility through the use of strategy acceptance, mindfulness techniques, and a wide range of behavioral methods in order to enable the person to act effectively in dealing with the complications of stress (16).

2. Objectives

Given the prevalence of cancer in the society, particularly the increasing number of patients with breast cancer, psychological treatment and support of these people to overcome fear and anxiety, and to create relaxation to improve their hopes accordingly for better life and more compatibility seem necessary. Because ACT can be effective against some of the problems of cancer patients, in this study, this treatment techniques have been used to develop a new treatment for a faster recovery and recurrence prevention in these individuals.

3. Methods

This quasi-experimental study involves pretest-posttest and a control group. The sample in this study was 34 patients who were in stages 0-II and divided in to two groups randomly: treatment group 19 patients and control group 15 patients. Considering the possibility of participants loss and experiences of previous research, the number of samples was 25% higher in the treatment group (n = 19). Inclusion criteria were at least guidance

graduation, awareness about their cancer, their willingness, and ability to participate in class. Exclusion criteria for both groups involve special events such as patient deterioration, specifically psychological stress.

3.1. Data Sources

To select patients using sampling methods, patients with breast cancer who referred to Yazd specialized clinical centers after surgery for cancer were considered. The patients were randomly (using a table of random numbers) divided into two groups: 19 patients in the treatment group and 15 patients in the control group. Of the treatment group, 4 patients were excluded due to deterioration and spread of disease to other organs and one due to death. Practically 14 patients in the treatment group were able to participate their classes.

After the selection of the sample, according to the stated criteria, both groups completed the questionnaire of Miller's hope. Then, the treatment group received ACT psychological treatment in the form of group therapy. After completion of the treatment, the questionnaire was re-distributed in two groups. The means of hope between two groups was compared before and after the intervention.

3.2. Data Collection

Hope questionnaire by Miller: Miller test is a diagnostic test. The test involves 48 states of hope and despair, and the provisions stipulated in it are based on covert and overt behavioral protests in hopeful or hopeless people. In front of each aspect which represents a behavioral sign, statements are written as follows: very opposed to 1, opposed 2, indifferent 3, agree 4, strongly agree 5. Each person gains score in respect to his/her responses. The score ranges from 1 to 5. Total scores are representative of hopefulness or hopelessness. Miller test scores range from 40 to 200 which means quite hopeless and maximum hope, respectively. To determine the validity of the questionnaire, the criterion question score was used so that the total score of the questionnaire was correlated with the criterion question score and it became clear that there was a significant and positive relationship between them ($r = 0.61$, $P = 0.0001$). To determine reliability, Cronbach's alpha and ballads were used in previous studies and their coefficients equal to 0.9 and 0.89 (17).

3.3. Statistical Analyses

In this study, the data were analyzed by SPSS software using analysis of covariance.

4. Results

The participants aged between 25 and 60 years. The age range of 40 - 50 years allocated the highest frequency to itself. Mostly, participants had a bachelor's degree and were employed.

As Table 1 shows, the mean of hope in the treatment group was greatly different in the post-test compared to those of the control group. In order to perform analysis of variance, its assumptions were studied. The results of Kolmogorov-Smirnov test showed normal distribution of data (Table 2). Variance homogeneity in groups was indicated by Levin test ($P > 0.05$).

Table 1. Descriptive Indicators^a

Variable stage	Group	Number	Hope	
Miller hope	Pre-test	Treatment	14	181.43 ± 21.93
		Control	15	180.93 ± 24.88
	Post-test	Treatment	14	199.21 ± 16.19
		Control	15	181.53 ± 26.87

^aValues are expressed as mean ± standard deviation.

Table 2. Kolmogorov-Smirnov Test

Variable		Kolmogorov-Smirnov Test	P Value
Hope of Miller	Pretest	0.2	0.088
	Posttest	0.2	0.110

Analysis of variance to assess the impact of interventions on patients' hope in the pre-test and post-test are presented in Table 3.

According to the above, above, by administering the pre-test among patients with breast cancer in both groups, we could finally observe a significant difference in terms of hope ($F = 57/38$ and $P < 0.05$). Moreover, the impact or difference of means regarding hope between two groups was 0.425. In other words, about 42.5 % of individual differences in post-test of hope were due to the treatment, hence it can be concluded that ACT and forgiveness group therapy was effective in increasing the hope of patients with breast cancer with 95% confidence interval. Given the differences between the means of two groups, the hypothesis is confirmed.

5. Discussion

The results of the current study showed that the group therapy of ACT was effective in terms of hope. The findings indicated a significant difference between treatment and control groups regarding mean of hope. Therefore, it can be concluded that instruction of ACT group therapy had a significant impact on the level of hope. One of the inevitable consequences of being diagnosed with cancer is anxiety and depression. Anxiety is a common trait from the early days of childhood to old ages which can lead to a bitter life, prevent the individual's contact with others, decrease hope, and consequently prevent effective cooperation with the world (18).

In a study by Watson et al. (1999) in England, the role of hope in the lives of women with breast cancer was evaluated in terms of life expectancy. The results of this study showed a positive correlation between depression and death in the first five years of being diagnosed by cancer (19) and this correlation was observed even in the following ten years (20). Although the third wave behavioral therapy is very common in the world, still a lot of research has been done about its efficacy. Hoffman and colleagues in a study investigated the effect of mindfulness-based therapy on anxiety and mood symptoms of patients with depression and anxiety, generalized anxiety disorder, depression and other psychiatric or medical conditions. Results showed the greatest impact were on anxiety and mood problems (21).

Hope is a process in which people in the first step define their goals, then create strategies to reach those goals, and in the third step create incentives for the implementation of these strategies and hold these incentives throughout the whole process (22). On the other hand, the basic and major principles of ACT therapy is determining values, stipulating it to the goals, and making a commitment to do it. This overlap can be an important reason for the impact of the therapy on the patients' hope. In a preliminary study by Feros et al. (2013) in Australia, the effect of commitment and acceptance-based therapy on improving the lives of patients with breast cancer was investigated. The results revealed significant improvements after the intervention as well as after the intervention and three months later. Statistical regression showed that psychological flexibility is able to foretell stress level, quality of life, and mood status (23).

Research has shown that reducing depression, anxiety and other psychological complications caused by cancer as well as cognitive and emotional acceptance of the disease by the patients effect better than standing against the disease (24). On the other hand, the principles of ACT include allowing thoughts to come and go without fighting with

Table 3. the Results of Analysis of Covariance Regarding Efficacy of ACT and Forgiveness on Breast Cancer Patients' Hope

Change Source	Total Squares	Degrees of Freedom	Mean Square	F Test Statistic	P Value	Chi Eta
Pretest	9307.06	1	9307.63	57.38	0.0001	0.688
Group membership	3123.07	2	1561.53	9.63	0.001	0.425

them, being aware of here and now, and experiencing it with interest, and learning ways to reduce the tendency of assuming thoughts, perceptions, emotions, and memories as mere facts in order to identify hope-crushing reasons, ignore it easily, and increase hope. The superiority of ACT to traditional CBT was revealed in a study that compared the effectiveness of ACT to traditional CBT in improving mood and quality of life in patients with ovarian cancer was short (25).

5.1. Conclusions

These findings provide preliminary support for the use of ACT in breast cancer populations. Due to small numbers of the participants, generalizing the results should be done with cautious. To get more reliable results, an intervention designed for the patient's family is suggested. The other suggestion is using larger samples.

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Footnotes

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